but the variety is mainly founded upon the color of the flowers, which are said* to have, when first gathered, the "delicate fragrance of the cultivated sweet violet, but in the course of an hour or two this odor passes entirely away." E. E. STERNS.

Index to Recent American Botanical Literature.

Algues Magellaniques Nouvelles.—M. P. Hariot. (Journ. de Bot., i., pp. 55-59 and 72-74; illustrated.)

Siphonocladus, Ectocarpus, Sphacelaria, Ceramium, Callophyllis and *Hildebrantia,* illustrated by six cuts in the text, are figured and described from Orange Harbor and the Falkland Isles.

Aquilegia longissima, Gray.—Sereno Watson. (Garden and Forest, i., p. 31, fig. 6.)

Azolla et Salvinia dans la Gironde. (Journ. de Bot., i., p. 29.)

Two more of our water weeds are causing trouble among the millers and death among the fishes in France. Instead of *Anacharis,* however, it is *Salvinia natans* and *Azolla Caroliniana* which have spread near Bordeaux so as to become a nuisance.

Bæria gracilis, Gray. (Gartenflora, xxxvi., p. 392; fig. 96.)

Calochortus flavus, Schult. f., and Milla biflora, Cav.—C. G. Pringle. (Garden and Forest, i., p. 20.)

Cladoniées Magellaniques.—M. P. Hariot. (Journ. de Bot., i., pp. 282-286.)

Twenty-two species of *Cladonia,* with two new ones and two varieties, are listed and described.

Ferns—Preparation and Mounting of.—J. D. King. (The Microscope, viii., pp. 78-81.)

A detailed account of the method of mounting microscope slides of pinnules used by one of the most successful manipulators.

Florule des Isles Saint-Pierre et Miquelon.—E. Bonnet. (Journ. de Bot., i., pp. 180-186, 219-221, 234-239, 249-253, 260-266.)

This is an interesting list of plants found in the last of the French possessions in North America, the islands of Saint-Pierre and Miquelon off the southern coast of Newfoundland. It is mainly a compilation from the collections of La Pylaie, Delamare and Beautemps-Beaupré.

Geraniaceæ—A Study of North American.—William Trelease.

*By Miss S. A. Trimble, of Waco, who collected the specimens.

(Mem. Boston Soc. Nat. Hist., iv., pp. 71-104; plates 9-12.)

We have the pleasure of noting another of Professor Trelease's valuable monographs. The present one is both systematic and biological. The new species and varieties established are *Limnanthes Macounii*, from Vancouver; *Oxalis corniculata*, L. var. (?) *macrantha*, a large southern form; *O. Suksdorfii*, from Oregon; *O. Acetosella*, L., var. *Oregana*, (*O. Oregana*, Nutt.); and *Geranium Carolinianum*, L., var. *Texanum*. The methods of pollination and seed-dissemination are discussed and a very large number of references to literature given.

Irises—Note on our Native.—Sereno Watson. (Garden and Forest, i., p. 18.)

Dr. Watson, after classifying the group and describing in a few words the geographical distribution, appeals to florists to cultivate our native species and solicits seeds and roots from the South and West for Prof. Michael Foster, Oxford, England, who is making a critical study of the genus.

Lichenology—Recent Contributions to American.

Enumeratis Lichenum Streti Behringii.—Exposuit W. Nylander. (Caen, 1888.)

Pyrenocarpeæ Cubenses a cl. C. Wright lectæ.—Auctore Dr. J. Müller, (Botanischer Jahrbücher, Leipzig, 1885.)

Graphideæ Feeanæ.—Auctore Dr. J. Müller. (Mem. de la Societé d'Histoire Naturelle de Genève, 1887.)

These three publications are of interest to students of American lichens. The first gives the names of the species collected by the Nordenskiœld expedition in the region referred to, in 1878-79. It enumerates 400 species, of which about 80 are new, and is the fullest list of the lichens of this region ever published. At the end is a revision of the lichens collected by Dr. Bean in 1880, a list of which was published in the Proceedings of the U. S. National Museum, Washington, 1884; Vol. vii., No. 1.

The second publication contains the determinations of Wright's Cuban Verrucariaceæ, which were distributed several years since, many of which may be expected to occur within the southern limits of the United States.

The third is a revision of the Graphidaceæ of Feè's Essai sur

les Cryptogames des Ecorces Exotiques Officinales and Supplement. It is of special value because the spore characters were in his time little known, and Dr. Müller has studied the original specimens of Feè, and of Acharius, Fries and others.

HENRY WILLEY.

Lilium Grayi, Watson.—(Garden and Forest, i., p. 19, fig. 4.)

Loganiaceæ—The Natural Order of.—R. G. Eccles, M.D. (Pharm. Record, viii, pp. 41-44.)

This is an interesting review of this important order and its allies from a medical standpoint, with much that is readable in geographical distribution and descriptive pharmacy.

Micrasterias Americana, Ralfs, and its Varieties.—W. M. Maskell. (Journ. Roy. Micros. Soc., 1888, pp. 7-10; plate II.)

Musci Cleistocarpici Novi.—Carolo Müller. (Flora, lxxi., pp. 1-13.)

This includes 26 species of *Acaulon, Phascum, Archidium, Astomum, Bruchia, Ephemerum* and *Lorentziella*, of which ten are South American from Paraguay, Montevideo and Brazil.

Outlines of Lessons in Botany—Parts 1 and 2.—Jane H. Newell. (Pamphlets, 8vo, pp. 45. Salem, Mass., 1887.)

These are intended as aids to teachers and mothers studying with their children, and as elementary guides will be found most practical and clear. The series is to consist of six, by which a practical acquaintance will be made with: 1—plants and their uses; 2—seedlings; 3—roots; 4—buds and branches; 5—stems; 6—leaves. They are intended to be used in connection with Gray's First Lessons or How Plants Grow, and are planned to cover the winter season, so that the pupils may be ready to study the flowers when they appear. We heartily commend the plan and effective methods of illustration.

Parmelia perlata et quelques Especès affines.—W. Nylander. (Journ. de Bot., ii., 33-34.)

Phacelia heterosperma, n. sp.—S. B. Parish. (Bot. Gazette, xiii., p. 37.)

Pinus insignis, Dougl. (Gartenflora, xxxvi, pp. 120-122; fig. 37.)

Pogogyne nudiuscula, Gray. (Gartenflora, xxxvi., p. 114; t. 1242.)

Polyporus abietinus, Fr., et Irpex fusco-violaceus, Fr.—Note sur l'identité Specifique du. (Journ. de Bot., ii., pp. 30-32.)

Rhododendron Kamtschaticum, Pall.—E. Regel. (Gartenflora, xxxvi., t. 1260.)

Structure de la racine et disposition des radicelles dans les Centrolépidées, Eriocaulées, Joncées, Mayacées et Xyridées.—M. Ph. Van Tieghem. (Journ. de Bot., i., pp. 305-315; illustrated.)

A brief comparison of the roots of grasses and sedges, as described in a former essay, is followed by a description of their structure in these orders.

Symphoricarpus—The Genus.—H. Zabel. (Gartenflora, xxxvi., pp. 603-606, 629-631 and 658, 659.)

Herr Zabel gives in the first part of his paper a review of Dr. Gray's arrangement of the genus, followed by an account of the forms cultivated at Münden, in which he claims that the name *S. orbiculatus*, Mœnch, used by Koch in 1794, has priority over *S. vulgaris*, Michx. He also recognizes a new variety *glaucus* of *S. racemosus*, Michx.

Thistles—Some Common.—L. H. Pammel. (Colman's Rural World, March 9, 1888,)

Mr. Pammel gives a popular account of *Cnicus altissimus*, var. *discolor*, *C. arvensis* and *C. lanceolatus*, with directions for their identification and eradication, illustrated with figures of each species.

Uncinula polychæta, B & C.—S. M. Tracy and B. T. Galloway. (Bot. Gazette, xiii., pp. 29-32; illustrated.)

Undescribed Plants from Guatemala—II.—John Donnell Smith. (Bot. Gazette, xiii., pp. 26-29.)

Chrysochlamys Guatemalecana, Harpelyce rupicola, Bauhinia Rubeleruziana, B. Pansamalana, Anneslia Quetzal and *Triolena paleolata* are characterized and the name *Myriocarpa heterospicata* is corrected to *M. heterostachya.*

Vaccinium de France—Sur les Variations de Structure des.—Paul Maury. (Journ. de Bot., i., pp. 104-108, 115-117; illustrated.)

Of species common to America and Europe are *V. uliginosum*, *V. Oxycoccus* and *V. Vitis-Idæa*, of which figures are given showing the upper and lower epidermis. The author concludes

that he can distinguish generic and specific microscopic characters.

Vinegar Plant—Growth of, in Fermented Grape Juice.—N. L. Britton. (Trans. N. Y. Acad. Sci., vi., pp. 66-70; reprinted.)

Describes the gelatinous, stratified cylinders formed by an organism identified as *Saccharomyces cerevisiæ*, Reess, and the appearance of *Penicillium* and other moulds on exposure of these to the air.

Willows—Two Beautiful North American.—H. Zabel. (Gartenflora, xxxvi., pp. 410-412, figs. 98-100.)

This paper gives minute descriptions of *Salix lasiandra*, Benth., var. *lancifolia*, (Anders.), Bebb, and *S. nigra*, Marsh., var. *falcata*, (Pursh), Gray. In regarding Andersson's *S. lancifolia* as a variety of *S. lasiandra* the author takes occasion to remark: "I follow in the naming the profound connoisseur of the North American Willows, Michael S. Bebb, of Illinois, to whom Greene has recently dedicated a new genus of Compositæ."

Zannichellia palustris—Le mode de Fécondation du.—M. E. Roze. (Journ. de Bot., i., pp. 296-299; illustrated.)

Reviews of Foreign Literature.

Notes on Hackel's Monograph of Gramineæ.—Prof. E. Hackel, of St. Pœlten, Austria, who is one of the best living agrostologists, has recently published as a part of "Engler and Prantl's *Naturliche Pflanzenfamilien*," a monograph of the order Gramineæ, which is of particular interest as representing the views of European botanists as to the subdivisions of this vast order. The primary divisions are the same as those of Bentham and Hooker, although not in the same relative order. But in the distribution into genera, there are many changes. Sometimes these changes are in the reduction of genera to sections, and sometimes in the elevation of sections to genera.

The whole number of genera recognized by Prof. Hackel is 313, whereas the whole number given by Bentham and Hooker is 298. There are a few new genera established since the publication of the "*Genera Plantarum*" of Bentham and Hooker, which accounts partly for the increased number. It may be interesting to note such of the changes as relate to the grasses of the United States.